

ABSTRACT OF THE DISCLOSURE

The present disclosure relates to a method for regulating a pump power of an optical amplifier, where a multiplexed broadband optical signal having several channels is amplified at a certain gain value while a change in power is detected at the input or output of the amplifier. A new pump power is calculated and adjusted based on a previously provided stable gain state of the optical amplifier after detecting the change in power such that deviations of the gain value remain minimal as planned temporary interface transients during a specific interval. The new pump power is thus calculated very accurately and quickly according to a model that takes into account the actual gain value, the wavelength dependence of active channels, aging effects, and non-linear amplification effects.